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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/963,960

09/25/2001

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020431.0947

1567

53184 7590 01/08/2008
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EXAMINER

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ART UNIT

PAPER NUMBER

3623

MAIL DATE

DELIVERY MODE

01/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Introduction

1. The following is a final office action in response to the communications received on October 24, 2007. Claims 1-7, 9-16, 18-25, and 27-30 are now pending in this application.

Examiner's Note

2. Examiner notes that several arguments presented by Applicants appear to be in response to some combination of the previously submitted Office Actions, without taking into consideration the changes to the Examiner's most current position in the Office Action submitted on July 26, 2007 and the present Office Action. Examiner directs Applicants to review this Office Action and the Office Action submitted on July 26, 2007 for the appropriately submitted rejections. Examiner is reserving responses to several of Applicants' arguments based on Applicants' arguments to the most current Office Action.

Response to Amendments

3. Applicants' amendments to claims 1, 3, 9-10, 12, 18-19, 21, and 27 are acknowledged. Examiner notes that Applicants amendments only cure part of the previously submitted 35 U.S.C. 112 2nd paragraph rejection and therefore Examiner maintains the unaddressed portion of the rejection.

Response to Arguments

4. Applicants' arguments filed on October 24, 2007 have been fully considered but are not found persuasive in part. Applicants argue i) Examiner's finding of Official

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Notice is improper and ii) Jameson fails to teach "method for solving a supply chain planning problem".

In response to Applicants' argument that Examiner's finding of Official Notice is improper, Examiner respectfully disagrees. Examiner maintains the position that no Official Notice has been taken regarding "a method for solving a supply chain problem". Applicants cite to page 6 of the July 26, 2007 Office Action, however, no taking of Official Notice can be found. Therefore, Examiner submits that this argument is moot as no Official Notice has been taken.

In response to Applicants' argument Jameson fails to teach "method for solving a supply chain planning problem", Examiner respectfully disagrees. In the July 26, 2007 Office Action, Examiner submitted the position that a resource planning problem is the same as a supply chain problem. Applicants' arguments that Examiner has taken the position that a resource planning problem is *part* of a supply chain planning problem is therefore inaccurate, and therefore moot. Examiner maintains that a resource allocation problem is a supply chain planning problem and is taught by Jameson (see Jameson abstract). Thus, solving a resource planning problem is the same as solving a supply chain planning problem. Examiner further notes that the recitation of "solving a supply chain planning problem" is merely in the preamble of the claims, and a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA

1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). The preamble of "solving a supply chain planning problem" has the single purpose of establishing an intended use for the invention and therefore should not be afforded any patentable weight.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7, 9-16, 18-25, and 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7, 9-16, 18-25, and 27-30 recite "operating a plurality of processors *in* said database, each of said plurality of processors associated with a respective partition of said plurality of distributed database partitions". It is unclear from this feature how a processor can operate "in" a database to execute database partitions. For the purposes of examination, Examiner interprets the processor operates said database.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1-7, 9-16, 18-25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6219649) in view of Christensen (U.S. Patent Publication No. 20020049759).

As per claim 1, Jameson teaches “a computer –implemented method for solving a supply chain planning problem (see abstract; where a resource allocation optimization method is disclosed. A resource allocation method is a supply chain planning problem.), comprising: decomposing the supply chain planning problem into a plurality of independent subproblems” (see Jameson column 7 lines 45-54; where the allocation problem is divided in to simpler sub-problems. Resource allocation is a part of supply chain management.) and “solving each of said plurality of said independent sub-problems by separate processes operating in parallel in said database” (see Jameson column 8 lines 8-25; where the sub-problems are solved to determine the optimal allocation point. Each sub-problem is solved independently. The matrices are stored on individual machines thus allowing the matrices to be stored across several computers. A distributed database is defined as a database that be distributed to several computers.). Jameson fails to explicitly teach organizing the sub-problems in to partitions and imploring processors to execute the database partitions. Christensen, in an analogous art, teaches “providing a plurality of distributed database partitions, each partition of said plurality of distributed database partitions associated with a respective independent data hunks of said supply chain planning problem” (see Christensen abstract and paragraph 46; where a plurality of database partitions are provided to for processing data hunks.), “operating a plurality of processors in said database, each

processor of said plurality of processors associated with a respective partition of said plurality of distributed database partitions" (see Christensen abstract and paragraph 46; where parallel processing is used to process the database partitions.), "forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items" (see Christensen abstract and paragraph 46; where the performance monitoring server partitions the database in to hunks. Hunks are related items. Hunks are the same thing as sub-problem partitions.), "loading data into a plurality of distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each of said distributed sub-problem partitions" (see Christensen abstract and paragraph 46; where data is in the distributed database partition. The parallel processing of the distributed database partitions enables faster performance of processing working data.). The advantage of such features is that it enables one of ordinary skill in the art to process information at greater efficiencies. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "providing a plurality of distributed database partitions, each partition of said plurality of distributed database partitions associated with a respective independent data hunks of said supply chain planning problem", "operating a plurality of processors in said database, each processor of said plurality of processors associated with a respective partition of said plurality of distributed database partitions", "forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items", "loading data into a plurality of

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distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each of said distributed sub-problem partitions” taught by Christensen to Jameson in order to increase the performance of the system, which is a goal of Christensen (see abstract).

As per claim 2, Jameson discloses:

The method of Claim 1, further comprising:

Forming a plurality of clusters, each of said clusters including said plurality of related items (see column 8 lines 5-12; where optimal points are clustered and the clusters include the scenario, where scenarios are a set of related events); and

Forming said plurality of distributed sub-problem from said plurality of clusters (see column 5 lines 35-40 and column 11 lines 3-15, column 7 lines 45-54, and column 8 lines 19-21; where the system accounts for larger sub-problems. Sub-problems are defined as larger sub-problems per the specification (see specification p. 9 line 16). Further, clusters are combined to create larger clusters or larger sub-problems. The sub-problems consist of scenarios, where a scenario is a set of related events).

As per claim 3, Jameson teaches the number of sub-problems is equal to the number of clusters (see column 7 lines 58-67, column 8 lines 1-8, and column 19 lines 1-46), however fails to explicitly teach “the number of distributed data is equal to the

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number of database partitions". Christensen, in an analogous art, teaches "the number of distributed data is equal to the number of database partitions" (see paragraph 31; where the number of related items is equal to the number of database partitions set to be solved.). The advantage of such features is that it enables one of ordinary skill in the art to process information at greater efficiencies. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "the number of distributed data is equal to the number of database partitions" taught by Christensen to Jameson in order to increase the performance of the system, which is a goal of Christensen (see abstract).

As per claim 4, Jameson discloses:

The method of Claim 1, wherein said plurality of related items are related by one or more pre-define relationship rules (see column 10 lines 50-68, column 11 lines 1-29, and figures 6-8; where all of the elements of a scenario are processed under pre-defined rules).

As per claim 5, Jameson teaches the method of Claim 2, wherein the forming said plurality of said clusters further comprises a step of storing said clusters (see column 18 lines 49-61; where cluster arguments and function calls are stored to increase performance of future processing by calling stored results). Jameson fails to disclose the step of forming said plurality of said clusters further comprises a step of assigning a CLUSTER_ID to each item of said plurality of related items. It is old and well-known in data management to assign an identification value to items stored in a database. The step of storing a cluster automatically gives it a CLUSTER_ID in a

database row. The advantage of assigning an identification value to items stored in a database is that the item and its respective row can be more efficiently found in the database by simply querying the database for the assigned identification value. It would have been obvious, at the time of the invention, for one of ordinary skill in data management to assign an identification value to the clusters stored in Jameson's system in order to more efficiently find the clusters and their stored results.

As per claim 6, Jameson teaches the step of forming a plurality of distributed sub-problem partitions from said plurality of clusters (see column 7 lines 45-58 and column 24 lines 61-67; where clustering is used to divide resource allocation problems into simpler sub-problems. Using simpler sub-problems enhances the system to run faster and simpler. Furthermore, multiple processors can be used to solve each of the sub-problems.). Although Jameson teaches creating sub-problems in order to facilitate computational time and complexity, Jameson fails to explicitly teach creating sub-problem objects of the same size. It is old and well-known in the art to equally size objects for processing. The advantage of creating objects of the same size is that it increasing the computational speed and minimizing the computational complexity. IT would have been obvious, at the time of the invention, to one of ordinary skill in the art to take the teachings of Jameson to divide an allocation problem into sub-problems and modify Jameson to include the feature of equally sizing the sub-problem partitions in order to increase the system speed and minimizing the computational complexity, which is a goal of Jameson (see column 7 lines 45-57 and column 24 lines 61-67).

As per claim 7, Jameson discloses:

The method of Claim 1, wherein the step of solving each of said plurality of said distributed sub-problems further comprises a step of solving said plurality of independent sub-problems in parallel (see column 24 lines 61-67; where the use of multiple processors is desirably for the parallel execution of multiple instances of clusters).

Claims 9-16, 18-25, and 27 recite a “computer-implemented system for solving a supply chain planning problem” and “software for solving a supply chain planning problem” taught by Jameson (see column 1 lines 13-14 and column 5 lines 35-40).

Claims 10-16, 18-25, and 27 further recite limitations already addressed by the rejections of claims 1-7 and 9; therefore the same rejection applies to this claim.

9. Claims 28-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6219649) in view of Christensen (U.S. Patent Publication No. 20020049759) and in further view of Chopra et al. (Chopra, Sunil; Meindl, Peter; Supply Chain Management: Strategy, Planning, and Operation, Prentice Hall, October 2000).

As per claim 28, Jameson teaches “said supply chain planning problems comprise problems selected from the group consisting of demand forecasting” (see column 5 lines 13-34 and column 19 lines 1-45; where uncertain constraints are handled and a resource allocation problem in terms of an forecasted demand uncertainty is provided.). Jameson fails to explicitly teach supply chain problems of “service level planning” and “replenishment planning”. Chopra, in an analogous art, teaches solving supply chain problems for “service level planning” and “replenishment planning” (see pp. 179-220; where methods for cycle service level planning and

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replenishment policies is discussed). Chopra further teaches supply chain problems of demand forecasting (see pp. 67-100; where planning for demand using demand certainty and demand uncertainty is done). The advantage of solving supply chain problems of demand forecasting, service level planning, and replenishment planning is that it facilitates the availability of product in light of the supply and demand variability. It would have been obvious, at the time of the invention, to combine the teachings supply chain management with regard to "supply chain problems consisting of demand forecasting, service level planning, and replenishment planning" of Chopra to Jameson in order to facilitate the availability of product in light of the supply and demand variability, which is a goal of Chopra (see p. 179-180).

Claims 29-30 recite a "computer-implemented system for solving a supply chain planning problem" and "software for solving a supply chain planning problem" taught by Jameson (see column 1 lines 13-14 and column 5 lines 35-40). Claims 29-30 further recite limitations already addressed by the rejection of claim 28; therefore the same rejection applies to these claims.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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